[Title]

Project: ReQ

Document: VideoStreaming

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Section	## 1.1 Purpose **[VideoStreaming-2]**					
	## 1.2 Movie streaming service **[VideoStreaming-39]** The application to be defined will be used for streaming movies which were released semi-recently (more specific time frames follow later) in exchange for monthly payments to the producer of the application					
Section	## 1.3 Scope **[VideoStreaming-3]**					
Information	## 1.4 Software product(s) **[VideoStreaming-40]** There are two major software products to be developed: 1. A downloadable app 2. A web based application (PWA) Every requirement will by default apply to both of these products unless specifically stated otherwise					
Information	## 1.5 Functionality **[VideoStreaming-41]** Users may decide between different membership tiers that each cost a different amount of money (paid each month) and grants different levels of functionality at the					

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	core of which is the streaming of movies					
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Section	**1.6.1 System interfaces [VideoStreaming-5]**					
Section	**1.6.2 User interfaces**					
Information	**1.6.2.1 Styleguide** **[VideoStreaming-43]** A more detailed styleguide will be created further on in the development cycle but key requirements are: • All forms and controls must have rounded corners • There must be both light mode and dark mode • The color scheme will consist of white and blue (light mode) or black and blue (dark mode)	•				
Section	**1.6.3 Hardware interfaces**					
Information	**1.6.3.1 Supported devices** **[VideoStreaming-66]** Supported devices are: • PC • Notebook/Laptop • Tablets • Smartphones	•				
Section	**1.6.4 Software interfaces**					
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Type	*Description*	*Source*	*Rationale*	*Priority*	*Status*	*Ver. Method*
Information	**1.6.4.2 Database access** **[VideoStreaming-45]** The application requires an interface to a database where both movie data and user data are stored					
Section	**1.6.5 Communications interfaces** **[VideoStreaming-9]**					
Section	**1.6.6 Memory constraints**					
Information	**1.6.6.1 Application size** **[VideoStreaming-87]** The application must not need more than 500 MB of storage space on any given device (excluding possible movie downloads)					
Section	**1.6.7 Operations** **[VideoStreaming-11]**					
Section	**1.6.8 Site adaptation requirements** **[VideoStreaming-12]**					
Section	**1.6.9 Interfaces with services** **[VideoStreaming-13]**					
Section	**1.7 Product functions**					
Information	**1.7.1 Stream movies** **[VideoStreaming-35]** Primary use of the application is the streaming of movies that were that were released in roughly the last to years(more details later)					
Information	**1.7.2 Search movies**					

Type	Description	Source	Rationale	Priority	Status	Ver. Method
	[VideoStreaming-36] In order to find a specific movie there has to be a possiblity to search for movies					
Information	**1.7.3 Download movies** **[VideoStreaming-37]** Depending on the account type of the user it should be possible to download and store movies for watching when not online					
Information	**1.7.4 Recommendations** **[VideoStreaming-38]** The application must give recommendations to the user based on his search and watch history					
Information	**1.7.5 Account management** **[VideoStreaming-42]** The application must have functionality for account management					
Section	**1.8 User characteristics**					
Information	**1.8.1 Average user** **[VideoStreaming-32]** • is of legal age • no specific gender • no specific nationality • has prior experience with similar applications	•				
Information	**1.8.2 Underaged user**					

Type	Description	Source	Rationale	Priority	Status	Ver. Method
	[VideoStreaming-33] With the parents consent it is possible for underaged persons to use the application					
Information	**1.8.3 User with disabilities** **[VideoStreaming-34]** Users may have disabilities like the following: • color blindness • bad eyesight or complete blindness • deafness	•				
Section	**1.9 Limitations** **[VideoStreaming-16]**					
Section	**1.10 Assumptions and dependencies** **[VideoStreaming-17]**					
Section	**1.11 Definitions** **[VideoStreaming-18]**					
Section	**1.12 Acronyms and abbreviations**					
Information	**1.12.1 PWA** **[VideoStreaming-86]** Progressive web application					
Information	**1.12.2 MPAA** **[VideoStreaming-81]** Motion Picture Association					
Information	**1.12.3 NIST** **[VideoStreaming-82]** National Institute of Standards and Technology					
Information	**1.12.4 GDPR**					

Type	Description	Source	Rationale	Priority	Status	Ver. Method
	[VideoStreaming-96] General Data Protection Regulation					
Section	**2. Requirements**					
Section	**2.1 External interfaces** [VideoStreaming-21]					
Section	**2.2 Functions**					
Functional Requirement	**2.2.1 User registration** [VideoStreaming-47] The application must have a form with which a user can create an account. This formula must have inputs for: • Email address • Password (must fulfill most recent NIST recommendations) • Repeat password • Membership type • Payment option (either Paypal or Debit card)	•		High		
Functional Requirement	**2.2.1.1 Membership types** [VideoStreaming-99] At time of launch users may decide between two different membership types that will decide upon the extent of thefunctionality they will have access to: • Normal (5$/month) • Premium (15$/month)	•		Low		

Type	*Description*	*Source*	*Rationale*	*Priority*	*Status*	*Ver. Method*
Functional Requirement	**2.2.1.2 Successful registration** **[VideoStreaming-79]** On successful registration the user will receive an email to verify and activate his account after which he will be redirected to the login page			High		
Functional Requirement	**2.2.1.3 Unsuccessful registration** **[VideoStreaming-80]** On unsuccessful registration one or more error message(s) will be displayed detailing what went wrong (e.g. password doesn't meet security standards)			High		
Functional Requirement	**2.2.2 Login** **[VideoStreaming-48]** The application must have a form with which the user can log into his account. Must have inputs for: • Email address (identification) • password (authentification) • "Remember me" checkbox (only for the PWA)	•		High		
Functional Requirement	**2.2.2.1 Successful login** **[VideoStreaming-83]** On successful login the user will be able to select the profile after which he will be redirected to the startscreen of the application			High		

Type	Description	Source	Rationale	Priority	Status	Ver. Method
Functional Requirement	**2.2.2.2 Unsuccessful login** **[VideoStreaming-84]** On an unsuccessful login attempt an error message will be displayed and the password input will be cleared			High		
Functional Requirement	**2.2.2.3 Forgot password** **[VideoStreaming-85]** It must be possible to reset the password for an account by requesting an email			High		
Functional Requirement	**2.2.3 Account management** **[VideoStreaming-68]** The application must have functionality for account management			High		Test
Functional Requirement	**2.2.3.1 Number of profiles** **[VideoStreaming-67]** Normal users can have up to 4 different profiles per account of which 2 may use the application simultaneously. Premium users can have up to 8 different profiles per account of which 6 may use the application simultaneously.			High		Test
Functional Requirement	**2.2.3.2 Admin profile** **[VideoStreaming-70]** Profiles can be declared admins for the account granting them several administrative rights (see following requirements)			High		Test

Type	Description	Source	Rationale	Priority	Status	Ver. Method
Functional Requirement	**2.2.3.3 Create profiles** **[VideoStreaming-71]** Admin profiles can create new profiles as long as the maximum number for their membership plan is not exceeded			High		Test
Functional Requirement	**2.2.3.4 Delete profiles** **[VideoStreaming-72]** Admin profiles can delete other non-admin profiles			High		Test
Functional Requirement	**2.2.3.5 Grant admin** **[VideoStreaming-73]** Admin profiles can grant admin status to other profiles			High		Test
Functional Requirement	**2.2.3.6 Age restriction** **[VideoStreaming-69]** Admin profiles can enable and disable age restriction mode for profiles			Medium		Test
Functional Requirement	**2.2.3.7 Deactivate account** **[VideoStreaming-75]** Admin users can deactivate the account making it impossible for any profile of the account to use the applications services			High		Test
Functional Requirement	**2.2.4 Startscreen** **[VideoStreaming-78]** The application must have a startscreen showing both profile-related and non-profile-related recommendations			High		Inspection

Type	*Description*	*Source*	*Rationale*	*Priority*	*Status*	*Ver. Method*
Functional Requirement	**2.2.4.1 Current trends** **[VideoStreaming-88]** On the startscreen displayed will be the Top 10 most watched movies of the last week			High		Inspection
Functional Requirement	**2.2.4.2 Recommendations** **[VideoStreaming-89]** On the startscreen displayed should be recommendations for the user the are based on his search and watch history			Medium		Inspection
Functional Requirement	**2.2.4.3 History** **[VideoStreaming-90]** On the startscreen displayed will be both unfinished and recently watched movies			High		Inspection
Functional Requirement	**2.2.5 Movie search** **[VideoStreaming-77]** It must be possible to serach for movies by their title			High		Test
Functional Requirement	**2.2.5.1 Successful search** **[VideoStreaming-91]** On successful search the movie will be displayed with additional information (runtime, actors, regie, genres) and is able to be started with 1 additional click			High		Test
Functional Requirement	**2.2.5.2 Unsuccessful search** **[VideoStreaming-92]** On unsuccessful search the user will be notified that the movie is not available			High		Test

Type	*Description*	*Source*	*Rationale*	*Priority*	*Status*	*Ver. Method*
Functional Requirement	**2.2.5.3 Search for actors** **[VideoStreaming-93]** It should be possible to search for actors which will return the 5 most popular movies starring that actor			Medium		Test
Functional Requirement	**2.2.6 Stream movie** **[VideoStreaming-94]** The application must allow a user to stream a movie while connected to the internet and having the necessary connection speed			High		Inspection
Functional Requirement	**2.2.6.1 Change language and subtitle** **[VideoStreaming-100]** It must be possible to change the movies language and the subtitles language without having to pause the Film			High		
Functional Requirement	**2.2.6.2 Remember time of pause** **[VideoStreaming-101]** The application must save the time at which a user stopped the movie even should the application be terminated			High		
Functional Requirement	**2.2.7 Download movie** **[VideoStreaming-95]** It must be possible to download movies and save them so they can also be watched when no internet connection is available. (Only applicable to the downloadable app)			Medium		Inspection

Type	*Description*	*Source*	*Rationale*	*Priority*	*Status*	*Ver. Method*
Functional Requirement	**2.2.7.1 Number of downloadable movies** **[VideoStreaming-98]** Profiles belonging to a normal account may doenload two movies each. Profiles belonging to a premium account may download five movies each.			Medium		Test
Non-func. Requirement	**2.2.7.2 Downloaded movies storage size** **[VideoStreaming-97]** In order to save storage space on the users device all downloaded movies are only avaialable in FullHD			Medium		Inspection
Section	**2.3 Usability requirements**					
Non-func. Requirement	**2.3.1 Application language(s)** **[VideoStreaming-58]** The application must support all of the following languages: • English • French • Spanish • Portuguese • German • Italian • Chinese • Japanese • Korean • Arabic	•		High		Inspection
Non-func. Requirement	**2.3.2 Movie language(s)** **[VideoStreaming-59]** Every movie must be available in its original language and if existing dubbed in:			High		Inspection

Type	Description	Source	Rationale	Priority	Status	Ver. Method
	• English • French • Spanish • German • Chinese • Japanese Additionally every movie must have subtitles for all supported application languages					
Non-func. Requirement	**2.3.3 Standard resolution** **[VideoStreaming-56]** Every movie must be available in FullHD for all users			High		Inspection
Non-func. Requirement	**2.3.3.1 Additional resolution** **[VideoStreaming-57]** For premium members every movie must also be available in 2K, QHD and 4K			Low		Inspection
Non-func. Requirement	**2.3.4 Accessibility** **[VideoStreaming-60]** For users with disabilities the application should support color blind mode and text reader			Low		Inspection
Non-func. Requirement	**2.3.5 Age restriction mode** **[VideoStreaming-74]** The application must support an age restricted mode based on the MPAA film rating system that can be activated to restrict access to age restricted movies			High		Inspection
Section	**2.4 Performance requirements**					

Type	Description	Source	Rationale	Priority	Status	Ver. Method
Non-func. Requirement	**2.4.1 Number of users** **[VideoStreaming-61]** At time of launch the application must be able to support 1 million users simultaneously			High		Analysis
Non-func. Requirement	**2.4.2 Available movies** **[VideoStreaming-62]** Every movie that ran in cinemas must be available 100 days after their theatrical relase and will then be available for exactly 2 years			High		Inspection
Non-func. Requirement	**2.4.3 Connection speed** **[VideoStreaming-63]** While streaming a connection speed of 10 Mbps must be enough for the movie to run in FullHD without lagging			High		Analysis
Non-func. Requirement	**2.4.4 Process time** **[VideoStreaming-76]** 90% of transactions (e.g. login, movie search) must be completed in under 1 second			High		Analysis
Section	**2.5 Logical database requirements**					
Non-func. Requirement	**2.5.1 Account data** **[VideoStreaming-64]** Account data consists of: • Id • email • membership type • payment information • number of profiles for this account			High		

Type	Description	Source	Rationale	Priority	Status	Ver. Method
	• references to the profile data for this account Additionally it has to be encrypted before being stored in the database					
Non-func. Requirement	**2.5.2 Profile data** **[VideoStreaming-65]** Profile data consists of: • application language • default movie language • top search reulst of the last 25 searches • watch history (last 10 watched movies) • age restriction	•		High		
Section	**2.6 Design constraints**					
Non-func. Requirement	**2.6.1 Styling** **[VideoStreaming-49]** The styleguide for HMI must at all times be observed			High		Inspection
Section	**2.7 Standards compliance**					
Non-func. Requirement	**2.7.1 GDPR** **[VideoStreaming-53]** In compliance with the GDPR will all user data of users living in the EU also be stored there			High		
Section	**2.8 Software system attributes**					
Non-func. Requirement	**2.8.1 Reliability** **[VideoStreaming-50]** The application must run without crashing in 95% of its uses			High		Analysis

Type	Description	Source	Rationale	Priority	Status	Ver. Method
Non-func. Requirement	**2.8.2 Availability** **[VideoStreaming-51]** The application must be available at all times and in every country except the following: • North Korea • Russia	•		High		Analysis
Non-func. Requirement	**2.8.3 Security** **[VideoStreaming-52]** 1. Personal data is to be encrypted using the Advanced Encryption Standard (AES)	2.		High		Analysis
Non-func. Requirement	**2.8.4 Portability** **[VideoStreaming-55]** The Application must be available from: • Google Play Store • App Store The Application must be runable on the last 3 major version of each of these operating systems: • Windows • macOS • Android • iOS • iPadOS The web based application must be functional with the last 5 versions of these browsers: • Chrome • Safari • Firefox • Edge	•		High		Inspection

Type	Description	Source	Rationale	Priority	Status	Ver. Method
Section	**3. Verification** **[VideoStreaming-29]**					
Section	**4. Supporting information** **[VideoStreaming-30]**					
Section	**5. References** **[VideoStreaming-31]**					